

Appl. No. 10/719,356
Amdt. dated January 5, 2006
Reply to Office Action of Oct. 5, 2005

Amendments to the Claims:

The following listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A projection screen comprising:

a substrate having at least a first surface;

a reflective layer having a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate, the second surface of the reflective layer having greater reflectivity than the first surface of the reflective layer; and

a diffusion layer attached to the first surface of the reflective layer.

Claim 2 (previously presented): The projection screen of claim 1, wherein the reflective layer comprises a film of aluminum.

Claim 3 (previously presented): The projection screen of claim 1, wherein the reflective layer comprises a layer of aluminum foil, wherein the first surface of the reflective layer has a polished finish, and wherein the second surface of the reflective layer is not polished.

Claim 4 (previously presented): The projection screen of claim 3, wherein the second surface of the reflective layer has a matte finish.

Claim 5 (original): The projection screen of claim 1, wherein the diffusion layer is a resin.

Claim 6 (previously presented): The projection screen of claim 5, wherein the resin is one of polyethylene and polypropylene.

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Claim 7 (original): The projection screen of claim 1, further comprising an optically transparent adhesive that attaches the second surface of the diffusion layer to the first surface of the reflective layer.

Claim 8 (original): The projection screen of claim 1, further comprising an adhesive that attaches the first surface of the substrate to the second surface of the reflective layer.

Claim 9 (original): The projection screen of claim 1, wherein the diffusion layer has a thickness greater than one one-thousandth of an inch (one mil).

Claim 10 (original): The projection screen of claim 9, wherein the thickness of the diffusion layer is in the range of approximately two mils to approximately eight mils.

Claim 11 (original): The projection screen of claim 1, wherein the substrate comprises polyvinylchloride and has a thickness in the range of approximately five mils to approximately eight mils.

Claim 12 (original): The projection screen of claim 1, wherein the reflective layer has a thickness in the range of approximately one-third of a mil to approximately one mil.

Claim 13 (previously presented): The projection screen of claim 1, wherein a combined thickness of the substrate, the reflective layer, and the diffusion layer is in the range of approximately eight mils to approximately twenty mils.

Claim 14 (original): The projection screen of claim 1, wherein the substrate is sufficiently flexible to enable the projection screen to be wound around a roller during periods of non-use.

Claim 15 (original): The projection screen of claim 1, wherein the second surface of the diffusion layer has a substantially smooth finish.

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Claim 16 (previously presented): The projection screen of claim 1, wherein the diffusion layer includes a first surface defined by a matte finish and an opposing second surface, and wherein the second surface of the diffusion layer is attached to the first surface of the reflective layer.

Claim 17 (previously presented): A projection screen system comprising:

a projection screen that includes:

a substrate having at least a first surface;

a reflective layer having a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate, the second surface of the reflective layer having greater reflectivity than the first surface of the reflective layer; and

a diffusion layer attached to the first surface of the reflective layer; and

a roller around which the projection screen is wound when the projection screen is not in use.

Claim 18 (previously presented): The projection screen system of claim 17, wherein the reflective layer comprises a layer of aluminum foil, wherein the first surface of the reflective layer has a polished finish, and wherein the second surface of the reflective layer is not polished.

Claim 19 (previously presented): The projection screen system of claim 18, wherein the second surface of the reflective layer has a matte finish.

Claim 20 (previously presented): A projection screen comprising:

a flexible substrate having at least a first surface and a thickness of approximately five mils to approximately eight mils;

a metallic layer having a first surface and an opposing second surface and having a thickness in the range of approximately one-third of a mil to approximately one mil, the second surface of the metallic layer having greater reflectivity than the first surface of the metallic layer;

a first adhesive layer, positioned between the flexible substrate and the metallic layer, that attaches the second surface of the metallic layer to the first surface of the substrate;

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a diffusion layer having a first surface defined by a matte finish and an opposing second surface defined by a substantially smooth finish, the diffusion layer further having a thickness in the range of approximately two mils to approximately eight mils; and

a second, optically transparent adhesive layer, positioned between the metallic layer and the diffusion layer, that attaches the second surface of the diffusion layer to the first surface of the metallic layer.

Claim 21 (previously presented): The projection screen of claim 1, wherein at least one of the reflective layer and the diffusion layer includes a plurality of micro lenses.

Claim 22 (previously presented): The projection screen of claim 21, wherein the micro lenses are generally equally spaced apart.

Claim 23 (previously presented): The projection screen of claim 21, wherein the micro lenses are concave.

Claim 24 (previously presented): The projection screen of claim 21, wherein the micro lenses are convex.

Claims 25 through 32 (cancelled)

Claim 33 (currently amended): ~~The projection screen of claim 25,~~

A projection screen comprising:

a substrate defining a first surface;

a reflective layer coupled to the first surface of the substrate, wherein the reflective layer has a first surface and an opposing second surface, the second surface of the reflective layer

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a diffusion layer coupled to the reflective layer such that the reflective layer is positioned between the substrate and the diffusion layer, the diffusion layer having a thickness greater than one one-thousandth of an inch (one mil);

wherein at least one of the reflective layer and the diffusion layer includes a plurality of micro lenses.

Claims 37 through 39 (cancelled)

Claim 40 (currently amended): ~~The projection screen system of claim [39],~~

A projection screen system comprising:

a projection screen that includes:

a substrate defining a first surface;

a reflective layer coupled to the first surface of the substrate, wherein the reflective layer has a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate, the second surface of the reflective layer having greater reflectivity than the first surface of the reflective layer[.]; and

a diffusion layer coupled to the reflective layer such that the reflective layer is positioned between the substrate and the diffusion layer, the diffusion layer having a thickness greater than one one-thousandth of an inch (one mil);

wherein at least one of the reflective layer and the diffusion layer includes a plurality of micro lenses; and

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being attached to the first surface of the substrate, the second surface of the reflective layer having greater reflectivity than the first surface of the reflective layer[.]; and

a diffusion layer coupled to the reflective layer such that the reflective layer is positioned between the substrate and the diffusion layer, the diffusion layer having a thickness greater than one one-thousandth of an inch (one mil);

wherein at least one of the reflective layer and the diffusion layer includes a plurality of micro lenses.

Claim 34 (previously presented): The projection screen of claim 33, wherein the reflective layer comprises a layer of aluminum foil, wherein the second surface of the reflective layer has a polished finish, and wherein the first surface of the reflective layer is not polished.

Claim 35 (previously presented): The projection screen of claim 34, wherein the first surface of the reflective layer has a matte finish.

Claim 36 (currently amended): ~~The projection screen of claim 25,~~

A projection screen comprising:

a substrate defining a first surface;

a reflective layer coupled to the first surface of the substrate, wherein the reflective layer has a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate, the first surface of the reflective layer having greater reflectivity than the second surface of the reflective layer[.]; and

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a roller around which the projection screen is wound when the projection screen is not in use.

Claim 41 (previously presented): The projection screen system of claim 40, wherein the reflective layer comprises a layer of aluminum foil, wherein the second surface of the reflective layer has a polished finish, and wherein the first surface of the reflective layer is not polished.

Claim 42 (previously presented): The projection screen system of claim 41, wherein the first surface of the reflective layer has a matte finish.

Claim 43 (currently amended): ~~The projection screen system of claim 39,~~

A projection screen system comprising:

a projection screen that includes:

a substrate defining a first surface;

a reflective layer coupled to the first surface of the substrate, wherein the reflective layer has a first surface and an opposing second surface, the second surface of the reflective layer being attached to the first surface of the substrate, the first surface of the reflective layer having greater reflectivity than the second surface of the reflective layer[.]; and

a diffusion layer coupled to the reflective layer such that the reflective layer is positioned between the substrate and the diffusion layer, the diffusion layer having a thickness greater than one one-thousandth of an inch (one mil);

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wherein at least one of the reflective layer and the diffusion layer includes a plurality of micro lenses; and
a roller around which the projection screen is wound when the projection screen is not in use.